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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,882	07/11/2003	Chih-Wei Chen	LA-7196-113.US	6816

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EXAMINER

PATEL, KAUSHIKKUMAR M

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/618,882

Applicant(s)

CHEN, CHIH-WEI

Examiner

Kaushikkumar Patel

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al (US 2003/0023811 A1).

Claim 1 is taught by Kim as:

A multi-volume disk array management method for use on a multi-disk storage unit having a number of disks for the purpose of allowing the multi-disk storage unit to provide at least two logical volumes for storing data in the logical volumes with at least two levels of fault tolerance (see figure 2, items 51, 52, 53 and 54 are multi-disks with items 61, 62, 63, and 64 are multi-volumes with multiple fault tolerance levels);

the multi-volume disk array management method comprising:

(1) logically dividing the storage space of each of the disks in the multi-disk storage unit into a number of partitions (see figure 2 and paragraph [0071], lines 3-4);

(2) organizing at least two selected subgroups of partitions in the disks of the multi-disk storage unit into at least two logical volumes (see figure 2, items 61, 62, 63 and 64, paragraphs [0071,0078, and 0079], lines 1-2); and

(3) setting the storage property of each of the logical volumes in the multi-disk storage unit into a user-specified level of fault tolerance (see figure 1, item 20 for admin GUI and command line interface which specifies user interface and paragraphs [0072-0075] for different levels of fault tolerances).

3. Claim 2 is taught by Kim as:

The multi-volume disk array management method of claim 1, wherein the multi-disks storage unit is RAID-compliant storage unit (Kim teaches different levels of RAID levels for storage, see paragraphs [0072-0075]).

4. Claim 3 is taught by Kim as:

The multi-volume disk array management method of claim 1, wherein said step (1), FDISK disk management utility is utilized to logically divide the storage space of each of the disks in the multi-disk storage unit into a number of partitions (see paragraph [0071], lines 5-6).

5. Claim 4 is taught by Kim as:

The multi-volume disk array management method of claim 1, wherein said step (1), all the partitions are set to be equal in size (see paragraph [0111], line 3, Kim talking about the partitions are equal in size).

6.. Claim 5 is taught by Kim as:

The multi-volume disk array management method of claim 2, wherein said step (3), each user-specified level of fault tolerance is a RAID-compliant level of tolerance (see paragraphs [0072-0074], which teaches different levels of RAID-compliant fault tolerances).

Art Unit: 2188

7. Claim 6 is taught by Kim as:

A multi-volume disk array management system for use on a multi-disk storage unit having a number of disks for the purpose of allowing the multi-disk storage unit to provide at least two logical volumes for storing data in the logical volumes with at least two levels of fault tolerance (see figure 2, items 51, 52, 53 and 54 are multi-disks with items 61, 62, 63, and 64 are multi-volumes with multiple fault tolerance levels);

the multi-volume disk array management system comprising:

a user interface for receiving user-specified settings related to the management of the overall storage space of the multi-disk storage unit (see figure 1, item 20, paragraph [0069], lines 3-6);

a storage-space partitioning module, which is capable of logically dividing the storage space of each of the disks in the multi-disk storage unit into a number of partitions based on the user-specified settings from the user interface (see, paragraph [0076] in which Kim teaches three virtualizations or modules and paragraph [0077] teaches a partitioning module);

a logical-volume organizing module, which is capable of organizing at least two selected subgroups of partitions in the disks of the multi-disk storage unit into at least two logical volumes based on the user-specified settings from the user interface (see paragraph [0079], which teaches a logical volume creation module);

a storage-property setting module, which is capable of setting the storage property of each of the logical volumes in the multi-disk storage unit into a user-

Art Unit: 2188

specified level of fault tolerance based on the user-specified settings from the user interface (see figure 1, item 20 for admin GUI and command line interface which specifies user interface and paragraph [0080-0081]).

8. Claim 7 is taught by Kim as:

The multi-volume disk array management system of claim 6, wherein the multi-disks storage unit is RAID-compliant storage unit (Kim teaches different levels of RAID levels for storage, see paragraphs [0072-0075]).

9. Claim 8 is taught by Kim as:

The multi-volume disk array management system of claim 6, wherein said step (1), FDISK disk management utility is utilized to logically divide the storage space of each of the disks in the multi-disk storage unit into a number of partitions (see paragraph [0071], lines 5-6).

10. Claim 9 is taught by Kim as:

The multi-volume disk array management system of claim 6, wherein said step (1), all the partitions are set to be equal in size (see paragraph [0111], line 3, Kim talking about the partitions are equal in size).

11. Claim 10 is taught by Kim as:

The multi-volume disk array management system of claim 7, wherein the user-specified level of fault tolerance is based on the RAID-compliant levels of tolerance (see paragraphs [0072-0074], which teaches different levels of RAID-compliant fault tolerances).

***Conclusion***

12. The prior arts made of the record and not relied upon are considered pertinent to applicant's disclosure. Gentry et al (5,568,629) teach a method for partitioning a disk array into multiple logical storage units with different schemes (RAID levels) for storing data. Stallmo (6,15,854) teaches the redundant array storage system multiple logical volumes, which can be set at different redundancy groups.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaushikkumar Patel whose telephone number is 571-272-5536. The examiner can normally be reached on 8.00 am - 4.30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on 571-272-4210. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2188

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Kaushik Patel*  
Kaushikkumar Patel  
Examiner  
Art Unit 2188

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*Reginald G. Bragdon*  
REGINALD G. BRAGDON  
PRIMARY EXAMINER